

AMPHIPOD NEWSLETTER

13



AMPHIPOD NEWSLETTER 13

No, the Amphipod Newsletter has not disappeared completely, nor has its editor. But it has become increasingly hard to find the time and energy to prepare the next newsletter, and that is the main reason for this more than two year gap between AN 12 and 13. I have not, however been completely idle; besides vain efforts to get any of my fellow ornithologists to assume the burden of newsletter editor, I have collected references, gossip and reviews as usual, and George Crawford has prepared most of the species part of the Index to AN 1-10. My intention is now to follow up this AN 13 as soon as possible with the species index (AN 14) and the rest of the collected material (AN 15). For AN 15 I should very much like to have a photograph or drawing of the late Eupraxie Gurjanova, who died in January 1981 after long illness, for use on the cover. This time the cover amphipod is the logo of the very successful Gammarus/Niphargus meeting in Poland in September 1981.

As usual, I have to thank several colleagues for their help, primarily with the bibliography: Jan Stock, John Holsinger, Colin Levings and Jean Mathieu were especially helpful this time, as well as the regional editors.

Tromsø, November 1982.



Wim Vader

AMPHIPOD NEWS FROM CONGRESSES, SYMPOSIA etc.

I International Conference on Biology and Evolution of Crustacea,
19-23 May 1980. The Australian Museum, Sydney.

Wim Vader

Although this conference suffered somewhat from the steeply increasing prices of flytickets, leading i.a. to a number of late cancellations among amphipod participants, it was still an undoubted success, and an invigorating experience for this participant from the opposite end of the globe. Only amphipod papers are listed below, but of course the most useful lectures to hear during a meeting like this are those outside one's own special pet-group, as prior knowledge of the lecture's contents and new leads is often so much smaller. A general impression of the conference was a clear trend among the different lectures of the independent and somewhat isolated position of the Amphipoda among the Peracarida.

The Conference was well-organized and the weather most enviable for late autumn. This made the post-Conference excursion to Jarvis Bay also still more delightful; this area has both exposed and semi-protected rocky shore, sandy beaches and mangrove and was thus very suitable as a first impression of an exotic coast.

Jim Lowrey and Des Griffin can be proud of this Conference. Jim tells me that the Proceedings have been hit by the world wide recession, but may be expected somewhere next summer.

Papers with direct amphipod significance at the Sydney Conference.

E.E. BALL. Phronima - a deep-sea crustacean with eyes in the top of its head (poster).

E.L. BOUSFIELD (read by D.LAUBITZ.) Studies on the freshwater amphipod crustaceans of New Zealand and Tasmania.

H.-P. BULNHEIM & A. SCHOLL. Enzyme variation in populations of two Gammarus species from north European coastal and estuarine areas (poster).

E. DAHL. Alternatives in malacostracan evolution.

K.W. DUNCAN. The physiological ecology of terrestrial amphipods and their conquest of the terrestrial environment.

J.A. FRIEND. The nature and history of the Tasmanian terrestrial amphipod fauna.

R.G. HARTNOLL. Strategies of crustacean growth.

R.R. HESSLER. Structural morphology and evolution of walking mechanisms in the Eumalacostraca.

J. JUST. The malacostracan fauna of the abyssal North Polar Basin.

D.R. LAUBITZ. A revision of the family Podoceridae (Amphipoda).

R.J. LINCOLN & D.E. HURLEY. The calceoli of gammaridean amphipods.

J.K. LOWRY. The marine gammaridean Amphipoda of the subantarctic islands of New Zealand and Australia (poster).

J.A. REDFIELD. Ecological genetics of crustaceans.

F.R. SCHRAM. Origin, phylogeny and taxonomy of Eumalacostraca.

M.J. SMITH & W. D. WILLIAMS. Reproductive strategies of some freshwater amphipods in southern Australia.

D.H. STEELE. Remarks on some shallow-water Indo-Pacific lysianassid amphipods.

W. VADER. Associations between amphipods and sea anemones.

I V. International Colloquium on Gammarus and Niphargus, Łódź-Częstochowa, September 1981.

Wim Vader

Many Symposium committees have needed good faith and perseverance in bringing their meeting off successfully, but few can have had a so arduous task as Krzysztof Jażdżewski and Andrzej Skalski, the organizers of the fifth Gammarus and Niphargus meeting in Poland. Their first try, in september 1980, had to be aborted at the last possible moment because of the political problems in their country. The decision came so late, in fact, that a number of participants did not hear of it before arriving in Poland (where they were well taken care of), while the Russians were reached at the last moments before starting from Moscow.

In 1981 the uncertain economic situation made the organization of a symposium still more complicated, but Krzysztof and Andrzej persevered and, with good help of their institutions, succeeded. About 30 participants, from Czechoslovakia, Iceland, Lebanon, USA, and 8 further countries met first at Burzenin near Łódź and, after a wonderful 2- days cross-country bus-trip with both cultural and amphipodological highlights, to Kucoby near Częstochowa. The list below gives the amphipod lectures presented (as usual, the meeting was combined with a groundwater symposium), but the Proceedings will additionally contain the lectures sent in for the 1980 meeting.

The organization of the conference was wonderfully smooth and informal, the atmosphere quite special, and the participants learned a lot on amphipods, groundwater and on Poland and the Poles. The wonderful 'Gammaragus'- amphipod on the cover of this Newsletter was especially drawn for this Symposium. The next symposium will probably be on Helgoland, with Hans-Petter Bulnheim as organizer.

(Please keep or put our Polish colleagues on your mailing-lists when sending out reprints and other information. It is hard for them to keep abreast with the literature now)

Amphipod papers at the Gammarus/Niphargus meeting in Poland, September 1981.

- N.J. ALOUF. La fécondité des Gammares. Essai de traitement statistique.
- E. BOUSFIELD & J.R. HOLSINGER. Hypogean crustaceans of the Canadian Albertean cordilleran region.
- H.P. BULNHEIM. Salinity adaptation and resistance capacities of five euryhaline Gammarus species.
- H.P. BULNHEIM & A. SCHOLL, Biochemical systematics of gammarids.
- J. GIBERT. L'écosystème karstique du Massif de Dorvan IV- Fluctuations observées dans la derivate du crustacé amphipode: Niphargus rhenorhodanensis et de mollusques gasteropodes au niveau de l'exutoire principal du massif.
- R. GINET. Structure et fonctionnement des écosystèmes du Haut- Rhone français 24. Les amphipodes des eaux interstitielles du fleuve Rhone en amont de Lyon.
- K. JAZDZEWSKI & R. FRONC. Vertical distribution of Gammarus species on the pier in the Gdynia harbour, Baltic Sea.
- G.S. KARAMAN. The presence of Niphargus aquilex and N. longicaudatus in Italy.
- G.S. KARAMAN & J.L. BARNARD. Revision of some gammaridean amphipods.
- V. KULHAVY. Respiration der troglobionten und troglaxenen Krustentiere.
- J. MATHIEU. Metabolisme respiratoire de Niphargus rhenorhodanensis (Gammaride hypogé) interstitiel. Influence de la température.
- M.P.D. MEYERING & H.G. PIEPER. Gammarus occurrence as an indication for stable conditions in Hessian woodland brooks and rivers.
- P. OBRDLIK. Remarks to the thermal tolerance of Gammarus fossarum Koch (Amphipods).

K.W. OPALINSKI. Metabolic compensation to temperature in amphipods.
 G. PETRE- STROOBANTS. Analyse comparative de la variabilité de
 certaines caractères taxonomiques de Gammarus pulex Linnaeus,
 1758, G. fossarum Kock, 1836 et G. caparti Stroobants, 1980.

J.L. REYGROBELLET & M.J. DOLE. Structure et fonctionnement des
 écosystèmes du Haut Rhone français. 19. Connaissance des
 milieux interstitiels regionaux: (2) Extension à la Lône du
 Grand Gravier.

C. ROUX. L' activité locomotrice de Gammarus pulex et de G. fossarum
 dans différentes conditions expérimentales.

A.W. SKALSKI. Groundwater fauna of the Małopolska gap of the Vistula.

A.W. SKALSKI & T. SYWULA. Contribution to the knowledge of the under-
 ground Crangonyctidae (Amphipods) of Poland.

W. VADER. Subchelate pereopods and amphipod taxonomy.

G.P. ZAUKE & F.R.G. OLDENBURG. Monitoring aquatic pollution using
 Gammaridae (Amphipoda: Crustacea), with emphasis on cadmium.

III Contribution with possible amphipod interests to '17-ème Symposium Europeen de Biologie Marine (EMBS 17) Brest, 27 Septembre- ler Octobre 1982. (contributed by I.B. Falk Petersen, Tromsø)

ATKINS, S.M. Contrasts in benthic community structure and succession
 off the North Yorkshire coast. (A study of two North Sea sites
 on one of which Ampelisca spinipes is codominant. The other site
 was a shallow water sandy habitat).

BATTAGLIA, B. & P.M. BISOL. Genetic variation in Gammarus (Amphipoda)
 in relation to the environment (A study of Mediterranean
 brackish-water populations of G. aequicauda and G. insensibilis
 The results show a low level of genetic variability).

BONSDORFF, E. Recovery potential of macrobenthic infauna from dredging
 in shallow, brackish water areas.

ELEFThERIOU, A. & D.J. BASFORD. Fluctuations in the macrobenthos and
 fish populations in a sandy bay.

REES, E.I.S. & A.J.M. WALKER. Variation in the Abra community in Liverpool
 Bay.

IV Workshop on Fjord Oceanography, June 1979, Sidney, Canada

A book was recently published which provides the Proceedings of a Work-
 shop on Fjord Oceanography, held in June 1979 at the Institute of Ocean
 Sciences, Sidney, British Columbia, Canada. A comprehensive mix of
 biological, physical and chemical papers were presented. The book

includes 9 invited review papers and 58 extended abstracts resulting from contributed papers or posters. Many of the non-biological papers would be of interest to amphipod specialists working in fjords.

One interesting presentation, which for a number of scheduling reasons did not get published, was that of Dr. J. Littlepage, Dept. of Biology, University of Victoria, Victoria, B.C. His paper presented submersible observations and experimental data on a species of Orchomenella which is found in large numbers in the bottom waters of Saanich Inlet. This is an interesting but atypical B.C. fjord characterized by persistent low dissolved oxygen levels.

This book is available from Plenum Press, 227 West 17th Street, New York, 10011, USA. A complete citation follows:

Freeland, H.J., Farmer, D.M. and C.D. Levings. (Editors) 1980. Fjord Oceanography. Plenum Press, New York. 715 p.

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(prepared at the request of W.Vader)

- BRATTEGARD, T. 1980. Why biologists are interested in fjords, p. 53-66 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- STONE, D.P. The Distribution of Zooplankton Communities in a Glacial Run-off Fjord and Exchanges with the Open Sea. p. 291-298 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- SANDS, N.J. and H. SVENDSEN. 1980. Zooplankton Variability in Skjomen, Northern Norway and Exchanges with the Outer Fjord. p. 367-370 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- MATTHEWS, J.B.L. and B.R. HEIMDAL. 1980. Pelagic Productivity and Food Chains in Fjord Systems. 377-389 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.

- FOSSHAGEN, A. 1980. How the Zooplankton Community may vary within a Single Fjord System. p. 399-406 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- GARDNER, G.A. 1980. A Preliminary Examination of Zooplankton Species Groupings and Associated Oceanographically Defined Regions along the British Columbia Mainland Coast. 407-414 in: Freeland, H.J., Farmer, D.M. and C. D. Levings (Editors) Fjord Oceanography, Plenum Press.
- BÄMSTEDT, U.U. 1980. Biochemical Components as Indicators of Seasonal Condition of Deep-Water Zooplankton.p. 447-452 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- ROSENBERG, R. Effect of Oxygen Deficiency on Benthic Macrofauna in Fjords. p. 499-514. in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- LEVINGS, C.D. 1980. Benthic Biology of a Dissolved Oxygen Deficiency Event in Howe Sound, B.C. p. 515-522 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- MARCOTTE, B.M. 1980. The Meiobenthos of Fjords: A Review and Prospectus. p. 557-568. in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- PEARSON, T.H. 1980. The Macrobenthos of Fjords. p. 569-602. in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- EVANS, R.A., B. GULLIKSEN and O.K. SANDNES. 1980. The Effect of Sedimentation on Rocky Bottom Organisms in Balsfjord, Northern Norway. p. 603-608. in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.
- BRUNEL, P., R. de LADURANTAYE and C. LACROIX. 1980. Suprabenthic Gammaridean Amphipoda (Crustacea) in the Plankton of the Saguenay Fjord, Quebec. p. 609-614 in: Freeland, H.J., Farmer, D.M. and C.D. Levings (Editors) Fjord Oceanography, Plenum Press.

NEW SUBSCRIBERS, CHANGES OF ADDRESSES etc.

Our list of subscribers is not at all up to date. I know, because I have seen different addresses from the ones I have for several people during my search for amphipod literature. In some cases I have written and asked whether the changed address is permanent, but I do not have the time or money to do this systematically; also, I

feel it is the subscriber's responsibility to keep the editor informed of changes of address. It will help a lot if you can do so.

Since the last list mme Eupraxia Gurjanova has died and Dr. Kazuki Hoshide has terminated his subscription. As usual, there are a number of new members and changes of address, as follows

Changes of address

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REVIEW

BRITISH MARINE AMPHIPODA: GAMMARIDEA

by Roger J. Lincoln.

British Museum (Natural History),

London 1979. 658 pp £ 50.

Wim Vader

Amphipod taxonomy is at present in a state of flux. The classification systems of Sars and Stebbing have remained dominant for several decades, but with increasing knowledge of tropical, anti-boreal and deep-sea faunas the gaps between the classical amphipod families have become smaller and smaller, and formerly clear dichotomies have broken down. At the same time amphipod workers became gradually aware of our almost complete ignorance of the phylogenetic relationships between the various amphipod families. For some years we resigned ourselves to putting the families in alphabetic order, even though this makes little evolutionary sense. Due to the gradual and uneven amalgamation of old families into larger blocks and the divergent views of the leading amphipod workers, this artifice did not even solve our indexing problems in a very satisfactory manner.

During the last decade the trend is toward an increasing boldness in amphipod systematics and classification: zoogeographic, phenetic and cladistic methods have been taken into use, new and promising characters of possible importance in unraveling amphipod relationships, such as gill structure, brood-plate morphology, calceoli and surface ultrastructure are being explored, and the boldest among us press ahead with new and revolutionary classifications, received with much criticism of the "too much too soon" type. Altogether the field is in turmoil, but intensively alive and new discoveries are made, or at least announced, every year.

To write a monograph on the amphipod fauna of a restricted geographic area in such a situation must be an extremely difficult task. Roger Lincoln of the British Museum (Natural History), the author of the Handbook of British Gammaridean Amphipoda, which is the subject of this review, had not only these general problems to contend with, but also the peculiar situation in Great Britain. The latest monograph on British amphipods has been the one by Bate and Westwood in 1868, but most of the surrounding countries

have more recent amphipod handbooks (Sars 1890-95, Chevreux & Page 1925, Stephensen 1923-31, 1929, Schellenberg 1942), so that the amphipod fauna of western Europe seemed to be quite well known.

In his introduction to the monograph Lincoln mentions that the book was originally intended only as a synopsis of intertidal species and slowly expanded into its present form. As it stands the monograph is a handbook encompassing identification and distribution of all British species, based on a thorough revision of the vast amounts of material and literature on British and European amphipods.

As a revision it is clearly a success. Lincoln has steered a very sensible, independent course through the treacherous waters of the many competing higher classifications of amphipods. He has ordered the families according to phylogenetic relationships and accepted a few, but not all, of the more sweeping recent revisions at family level. The result is very consistent and will no doubt be followed by many European authors in their work on regional faunas.

The author has unraveled a number of knotty taxonomic problems (i.a. in the Amphilochidae and Stenothoidae) and his workable keys, large and clear illustrations and concise descriptions will enable most western European amphipods to be identified with much more confidence than has been possible before. The layout of the handbook, with the illustrations close to the relevant descriptions, makes the book a pleasure to use in identification. The main problem with the illustrations is that there is no indication whatsoever of the magnifications used for the different parts. This makes it difficult to compare the relative size of certain legs, e.g. the gnathopods of different Stenothoidae. I also should have preferred to know the provenance of the illustrated specimens. This is now only given for some rare species, or when the illustrated material was not British (I doubt if the figured Ampelisca eschrichtii, really came from Finland, as noted in the caption).

The descriptions are clear and concise, but mostly restricted to the classical characters of diagnostic value. There are very few data in this book on the "new" characters, such as gills, brood plates (not mentioned even in Chaetogammarus stoerensis), pleopods or even calceoli, an area where Lincoln is one of the

foremost authorities. The living colour of most species is described although the eye-colour is curiously enough never given. The data on habitat and biology are somewhat scanty, in spite of the many published data on this field in the British literature. To give examples from my own field of interest, interspecific associations: Normanion is given as a parasite of pelagic fishes (it is usually found on benthic fishes and the nature of its association is unknown), on Opisa Lincoln notes: "Stephensen (1923) suggests that it might be parasitic on fishes, on the evidence of a single specimen taken from a cod" (this genus is now well documented as fish-associated) and for Aristias neglectus the author records its association with ascidians and sponges, but not that with sea anemones, brachiopods and echinoderms. Similarly one of the three known British references to the association of Melita obtusata with sea anemones is cited, but nothing is said of its common occurrence on starfish, and the regular association of Urothoe marina with different burrowing invertebrates, of Metopa solbergi with sea anemones, and of Euonyx chelatus with echinoderms do not rate any mention.

The British distribution of the amphipods is given by reference to the 40 British Marine Census Areas, listed and mapped on pp 27-28 (area 18 is here called Plymouth but throughout the text West Channel), while a bibliography of the main references for each census area is given on pp 29-31. This makes it easy to read the distribution records. More difficult it is, on the other hand, to know which of these records have been validated by material seen by Lincoln himself, and which have been taken unchecked from the literature.

In the compilation of the European literature the author has made a valiant effort (especially welcome in a British author) to be as complete as possible; this must have entailed wading through a sea of scattered papers in many languages. In this, as in other details, there are quite a number of minor inconsistencies, which suggest that the final editing of the book may have had to be carried out in a hurry. The listed distribution occasionally omits data from papers cited in the bibliography: Talorchestia brito has been found in Denmark and Norway, Bathyporeia pelagica has been found around the entire North Sea and in western France, and Chaetogammarus stoerensis also occurs in the northwestern Atlantic. Similar slips can be seen in the synonymies, where some relevant western European synonyms are missing, such as Gammarus

sarsi Reid and G. ochlos Reid for G. zaddachi, and Talorchestia frisiae Klein for T. deshavesii, while a number of less relevant "exotic" synonyms are included, not always correctly (Lepidactylis dytiscus Say is not a synonym of Haustorius arenarius; Siphonocetes dellavallei is not a synonym of S. kroyeranus).

A few similar inconsistencies are found in the nomenclatural treatment of certain species. After having established that Dahl in his revision of Acidostoma gave the new name A. neglectum to what was the real A. obesum, and coining the new name A. sarsi for A. obesum auct non B. & W., Lincoln then puts A. nodiferum Stephensen into synonymy with A. sarsi, overlooking the fact that this synonymy makes his new name superfluous.

Myers' 1973-paper on Aora is cited by Lincoln, but his text still accepts Aora as monotypic, while Myers has convincingly shown that there are at least two Aora-species in the North-Atlantic, neither of which is Aora typica, and that the correct name for the British species is Aora gracilis (Bate). Similarly, Stenothoe cattai Stebbing is still used for "Chevreux" species" S. eduardi Krapp-Schickel, although Krapp-Schickels 1976 paper is in the bibliography.

Similar slips occur in the statements of distribution. For Parametopa Lincoln gives the area of distribution as "temperate and subarctic waters of the North-Atlantic", although Parametopa species have been described from both S. Africa and the Bering Sea area. Chaetogammarus is characterized as "A small genus comprising about 7 recognised species restricted to the North East Atlantic area and until recently known by the familiar name Marinogammarus". This was roughly true for Marinogammarus (although M. stoerensis penetrates into the NW Atlantic), but not any longer after the merger with the predominantly Black Sea Chaetogammarus.

Besides the species accounts, the Handbook of British Marine Amphipoda: Gammaridea contains a clear introduction on the external morphology of amphipods, with beautiful SEM-pictures of calceoli, a short chapter on preservation and preparation, a useful and clear glossary, a chapter on geographical ecological distribution with i.a. a list of intertidal British species, and a selected amphipod bibliography indexed under 7 major headings: General, Ecology/Biology, Behaviour, Morphology, Anatomy/Histology, Physiology and Genetics. Although Lincoln is careful to point out the limitations of this bibliography, my guess is that it will be one of the most widely used parts of the book. The final

bibliography is impressive and runs over 38 pages, so it may seem like carping to point out that Erik Dahl's 1944 and 1948 important monographs on terrestrial and algae-living amphipods in the Sound ought to have been included, or that prof. Kinne's name consistently has been "frenchified" into Kinné.

The Handbook has been well produced and bound, and the lay-out is by far the best of any amphipod handbook I know. Curiously the photographs of entire amphipods in Plate 1 are very poor. The price unfortunately puts the book out of reach for most

amphipodologists. Nevertheless, I expect that "Lincoln" will soon take over from "Stephensen", "Schellenberg" and "Chevreux & Fage" as the main amphipod identification handbook in western Europe. And that means the Handbook will get the success it undoubtedly deserves, in a very competitive market.

Just when I write this the latest issue of the J. mar. biol. Ass. U.K. appeared with no less than 4 amphipod papers, a clear sign of the fresh impetus a good Handbook has given to British amphipodology.

As an appendix to this review I give a list of the main taxonomic changes effectuated by Lincoln. The following new taxa are described: Paramphilochooides n.gen. (Amphilochoidae) with 2 species Amphilochooides intermedius (type) and A. odontonyx, and Acidostoma sarsi n. nom. (= A. obesum auct., non B. & W. = A. nodiferum, the latter the correct name for the taxon). Further changes: Socarnopsis is synonymized with Socarnes, Scopelocheirus crenatus with S. hopei, Acidostoma neglectum with A. obesum B. & W. (nec auct), Amphilocheus brunneus with A. spencebatei, M. abscisa with M. latimana, Metopa sarniensis with Parametopa kervillei, Stenula latipes with S. rubrovittata (transferred from Metopa), Melita reidi with M. obtusata, Liljeborgia brevicornis with L. pallida (not the other way round), Calliopius rathkei and C. crenulatus with C. laeviusculus, Parapleustes monocuspis with P. bicuspis, and Erichthonius hunteri with E. difformis. On the other hand the author considers the following pairs of species to be good species: Amphilochooides boeckii and A. serratipes, Peltocoxa marioni and P. damnoniensis, Stenothoe crassicornis and S. antennulariae, Hyale stebbingi and H. nilssoni, and Jassa marmorata and J. falcata. Lincoln considers Cheirocratus to be a melitid, Megaluropus a melphidippid, and Cerapus and Erichthonius to belong to the Ischyroceridae.

I am very grateful to Jean Just (København) for his help with this review.

NEWS FROM COLLEAGUES

Because of the long gestation period of this newsletter, some of the contributions to this topic may be old news by now. I apologize.

Chip BIERNBAUM: I am presently working on two major projects:

1) A study of summer and winter occurrences of planktonic amphipods in samples taken over the continental shelf and slope between Capes Hatteras and Canaveral, and 2) a description of the terrestrial and marine amphipods of Ascension Island. Ascension has three fully terrestrial amphipod species in addition to a not untypical tropical marine fauna. I would appreciate learning of recent or on-going African, South American East Coast, Caribbean, and Atlantic island studies so that the origins of the Ascension fauna can be clearly determined. I would also like to contact those who have worked with Talitriator eastwoodae or have any specimens of this species (complex) in their collection.

Juana Rosa CEJAS PULIDO: I am a graduate student, completing my M.Sc. degree in biology at the Dept of Marine Sciences at the University of La Laguna. I'm working now with a catalogue to the species and subspecies of littoral marine amphipods of Tenerife (Canary Islands) to be finished early in 1982.

Tony FRIEND: I now have a permanent job with the Dept of Fisheries and Wildlife in Perth. At the moment I am conducting research into the biology and ecology of the numbat, a small marsupial mammal, but I am continuing my involvement with land amphipods.

Rainer HARTMANN: I am working on the cave-dwelling amphipod Niphargus aquilex schellenbergi (KARAMAN) at II. Zoologisches Institut, Dept. Ökologie, University of Göttingen, BRD.

The main intentions of my work are investigations in abundance and populations ecology in the seasonal sequence. Researches in the biology of reproduction are made furthermore; and there is also made an attempt to find out, up to which degree drift and upstream-migration of the animals are underlying some rhythm. The investigations are essentially made in a mining system in the Harz Mountains, BRD. Laboratory investigations are intended to ensure field results.

Ken-ichi ISHIMARU: He intends to study the biology of the tube-dwelling Corophium complex.

Jim LOWRY: I just spent a month collecting amphipods off the northern coast of Australia. A lot of good material including quite a few amphipods in association with other invertebrates. The most interesting are maxillipids and iciliids in association with gorgonaceans. Helen Stoddard and I are putting the finishing touches to our subantarctic lysianassid papers and hope to work on Australian lysianassids next year.

Gary POORE: I am working with Jim Lowry on Australian Ampelisca species.

David WILDISH: The sublittoral, benthic productivity chart for the Bay of Fundy mentioned in AN 11 should be completed by September 1981. Sampling of four amphipods (Haploops, Casco, Photis and Harpinia) in the Bay of Fundy, over a 2-yr period, will be finished in November 1980 with 16 out of 24 months sampled. It is planned to determine wet biomass (B), production (P), and annual turnover ratios (P:B) for each of these species, using conventional cohort analytical methods or if cohorts are not distinguishable by modified Hynes method. This method previously used by freshwater ecologists was found to be suitable for use with marine/estuarine amphipods (Wildish, D.J. 1980, Measurement of secondary production in marine amphipods by modified Hynes method, ICES C.M. 1980/L:33, 8 pp.).

Incidentally, the dominant species of amphipods on the southwestern part of the Bay of Fundy, Haploops sp., will shortly be described as a new species in a collaborative paper with Dr. John Dickenson currently at the National Museum of Natural Sciences, Ottawa. It is a small species (max. length 8 mm) with a very low reproductive potential: an average of 5 (range 2-13) eggs per brood with apparently 1 brood/female (semelparity) and a generation time of 2 years.

I am also working on a review of the evolutionary ecology of reproduction in Gammaridean Amphipoda.

REQUESTS FOR INFORMATION

Juana Rosa CEJAS PULIDO: I will be very grateful to all the colleagues of A.N. who can send me reprints of amphipod work of the area I am working on now: Canary Islands and North West Africa.

MISSING TYPES: PHRONIMA COLLETTI AND OXYCEPHALUS PISCATOR
C.T. SHIH

In August 1980, I visited the following museums to study hyperiidean collections: British Museum (Natural History) in London, Zoologisch Museum in Amsterdam, Rijksmuseum van Natuurlijke Historie in Leiden, Zoologische Institut und Zoologisches Museum in Hamburg, Senckenberg Museum in Frankfurt, Zoologisk Museum in Copenhagen, and Muséum national d'Histoire naturelle in Paris. All identified material of phronimids and some of oxycephalids were checked and errors were corrected when time permitted. I found a large number of misidentified specimens in all museums except the Rijksmuseum van Natuurlijke Historie, where Dr. H.-E. Gruner of the Museum für Naturkunde in Berlin, DDR, visited and studied the hyperiidean collection in 1978. In addition, the types of Phronima colletti Bovallius 1887 and Oxycephalus piscator H. Milne-Edwards 1830 were found to be either lost or misplaced.

The 'types' of Phronima colletti, a mature female and an immature male, are placed in a vial together with other Bovallius' types of hyperiideans in a large jar in the Zoologisk Museum in Copenhagen. Morphologically these two specimens are identical with P. pacifica Streets 1977. The locality on the label is 'Indian Ocean' which is different from Bovallius original, brief description¹, South Atlantic. In a later publication², Bovallius gave a detailed description and illustrated mature male and female of P. colletti. This description with illustration has been the reference for identifying this species ever since. Dr. Torben Wolff and I agreed that these two specimens are not the types of P. colletti because they were not collected from the type locality and they differ from Bovallius' description and illustration of the species.

In the Muséum national d'Histoire naturelle in Paris I found in a vial, supposedly containing the type of Oxycephalus piscator, five specimens (four females and one male) of O. clausi Bovallius 1887. The label in the vial indicated that these specimens were determined by Bovallius as Milne-Edwards' type of O. piscator. It was mentioned³ that Alphonse

Milne-Edwards lent a collection of hyperiideans, including some of H. Milne-Edwards' types, to Bovallius. When returning the material, Bovallius probably replaced the type of O. piscator with some specimen of this O. clausi.

1. Bovallius, C. 1887. Systematic list of Amphipoda Hyperiidea. Bih. K. Svenska Vet.-Akad. Handl. Band. 11, No. 16.
2. Bovallius, C. 1889. Contributions to a monograph of the Amphipoda Hyperiidea. Part I: 2. The families Cyllopodidae, Paraphronimidae, Thaumtopsidae, Minonectidae, Hyperiidae, Phronimidae and Anchylomeridae. Kongl. Svenska Vet.-Akad. Handl. Band 22, No. 7.
3. Bovallius, C. 1887. Contributions to a monograph of the Amphipoda Hyperiidae. Part I: 1. The families Tyronidae, Lanceolidae and Vibiliidae. Kongl. Svenska Vet.-Akad. Handl. Band. 21, No. 5. (p.1, footnote 6)

NEW AMPHIPOD SPECIES IN LARRY MCKINNEY'S THESIS

At my request, Larry McKinney has sent me the following list of published names and still unpublished new species from his dissertation on the amphipods of the Gulf of Mexico, abstracted earlier in the Amphipod Newsletter. I am certain this list will be very welcome to many colleagues. (WV).

Amphilochus B-----	<u>A. delacaya</u> McKinney, 1978
Gitanopsis A-----	<u>G. laguna</u> McKinney, 1978
Photis A-----	<u>P. macromanus</u> McKinney et al., 1978
Atylus A-----	<u>Atylus urocarinatus</u> McKinney, 1980
Ampithoe A-----	as yet unpublished
Gammaropsis A-----	as yet unpublished
Corophium A-----	appears to be a synonym of <u>C. baconi</u> Shoemaker, 1934 (unconfirmed)
Parametopella A-----	<u>Parametopella texensis</u> McKinney et al., 1978
Photis B-----	<u>Photis melanicus</u> McKinney, 1980b
Polycheria A-----	as yet unpublished
Eusiroides A-----	<u>Eusiroides yucatanensis</u> McKinney, 1980
Liljeborgia A-----	<u>Liljeborgia bousfieldi</u> McKinney, 1979

Listriella A-----Listriella quintana McKinney, 1979
 Listriella B-----L. bahia McKinney, 1979
 Listriella C-----L. carinata McKinney, 1979
 Ceradocus A-----as yet unpublished
 Eriopisa A-----E. incisa McKinney et al., 1978
 Maera A-----as yet unpublished
 Netamelita A-----Netamelita barnardi McKinney et al.,
 1978
 Megaluropus A-----M. myersi McKinney, 1980
 Platyischnopus A-----as yet unpublished
 Seba A-----Seba tropica McKinney, 1980

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- ALOUF, N.J., 1979. Sur la présence du genre Gammarus au Liban, avec description de deux nouveaux taxa (Crustacea, Amphipoda). ____ Bull. zool. Mus. Adam 6, 177-186. (G. oronticus n.sp. and G. laticoxalis libanicus n.ssp.).
- ALOUF, N.J., 1980. Ecologie, biologie et cycle de reproduction des gammares du 'Assi (= Oronto, Liban) (Crustacés, Amphipodes). ____ Annls Limnol. 16, 119-134 (Gammarus syriacus, G. laticoxalis and G. oronticus)
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- ARIMOTO, I., 1980. Supplements to the Japanese caprellid fauna. 1. Caprellids from the Korean Straits and adjacent waters. ____ Publ. Seto mar. biol. Lab. 25, 95-113. (Fourteen species, among which Pretritella divina n.gen. n.sp. (near Proliropus), Paracaprella insolita n.sp. Caprella (Spinicephala) minuscula n.sp. and C. (S) minima n.sp.)
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- ATTAR, E.N. & E.J. MALY, 1980. A laboratory study of preferential predation by the newt Notophthalmus v. viridescens. ____ Can. J. Zool. 58, 1712-1717 (The newts preferred Hyaella over Daphnia, especially at high densities).

- BARNARD, J.L., 1980. Revision of Metharpinia and Microphoxus (marine phoxocephalid Amphipoda from the Americas). ____ Proc. biol. Soc. Wash. 93, 104-135 (Microphoxus (typespecies M. minimus) has Metharpinia cornuta as second species. Metharpinia (type species M. longirostris) has 4 further species: Paraphoxus jonesi, Pontharpinia floridana, M. oripacifica n.sp. from Pacific Costa Rica (= Paraphoxus floridanus s. Barnard 1960) and M. coronadoi n.sp. from southern California)..
- BARNARD, J.L., 1980. The genus Grandifoxus (Crustacea: Amphipoda: Phoxocephalidae) from the northeastern Pacific Ocean. ____ Proc. biol. Soc. Wash. 93, 490-514 (Grandifoxus (type species Phoxus grandis= Pontharpinia milleri) has in the Americas the following further species: G. sp. J. from California, Pontharpinia longirostris Gurjanova, G. sp. R. from Alaska, G. sp. 51 from Alaska and Pontharpinia robusta (with P. robusta lindbergi). The latter, not reexamined here, may be identical with sp. R or sp. 51).
- BARNARD, J.L. & C.M. BARNARD, 1980. Two new phoxocephalid genera, Fuegiphoxus and Phoxorgia, from magellanic South America (Amphipoda: Crustacea). ____ Proc. biol. Soc. Wash. 93, 849-874 (Fuegiphoxus n. gen. has as type species Parharpinia fuegiensis from Tierra del Fuego, and as further species F. inutilus n.sp. from South Georgia, F. abjectus n.sp. from Bahia Inutil, S. Georgia, and possibly Pontharpinia uncinata. Phoxorgia n. gen. is monotypic, based on Parharpinia sinuata (= P. villosa s. Schellenberg) from Bahia Inutil.)
- BARNARD, J.L. & G.S. KARAMAN, 1980. Classification of gammarid Amphipoda. ____ Crustaceana, Suppl. 6, 5-10 (A critique of Bousfield's 1977 classification of Gammaridae s.l.. "The lack of definable discontiguous clusters prevents nomenclatural recognition of superfamilies, families, and subfamilies". A number of examples for this is given, especially in the hadziid-melitid groups).
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- GROSSO, L.E. & R. RINGUELET, 1979. (Subterranean freshwater fauna of Argentina. 1. Two new species of the amphipod genus Bogidiella.) Limnobiologia 1, 381-394. (In Spanish. B. cooki n.sp. and B. purmarcensis n.sp. (near B. tabascensis), both from Rio Grande).
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- GULLIKSEN, B., T. HAUG & O.K. SANDNES, 1980. Benthic macrofauna on new and old lava ground at Jan Mayen. ____ Sarsia 65, 137-148.
- GURJANOVA, E.F., 1980. (Some new data in taxonomy of family Phoxocephalidae sensu lato (Amphipoda, Gammaridea). Report II) ____ Akad. Nauk SSSR, Issledov. Faun. Mor. 25, 89-97. (In Russian. Treats the Phoxocephalinae, with the genera Joubinella (6 pp), Urophoxus (1), Pontharpinia (with Metharpinia as synonym) (30), and Synphoxus n. gen., type S. novaezealandicus n.sp. from off New Zealand. Urophoxus pinguis (Haswell) is redescribed, and Pontharpinia westi n.sp. from the Kurile Islands newly described. Pontharpinia schellenbergi is proposed as nom. nov. for Metharpinia longirostris Schellenberg 1931 (non P. longirostris Gurjanova 1938, a somewhat

surprising move as Schellenberg's species is the elder of the two).

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cephalidae sensu lato (Amphipoda, Gammaridea). Report III).
____ Akad. Nauk SSSR, Issledov. Faun. Mor. 25, 98-100.
(In Russian. The monotypic new subfamily Waipirophoxinae is
erected, based on Waipirophoxus n. gen., with as type and
only species Paraphoxus waipiro Barnard 1972 from Wellington,
N.Z.)
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virginiana Shoemaker 1933 in the tidal plankton. ____ Can.
J. Zool. 58, 860-864.
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serpulid polychaete Hydroides dianthus. ____ Mar. Biol. 56,
43-48 (Not seen. Deals with i.a. Unciola serrata, Corophium
simile and C. tuberculatum)
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amphipod compound eyes: The fine structure of the ommatidial
units (Crustacea, Amphipoda). ____ Zoomorphologie 94, 279-306.
- HARRIS, P.R., 1979. The winter feeding of the Turnstone in North Wales.
____ Bird Study 26, 259-266 (Main food Gammarus s.l. spp,
Littorina and barnacles)
- HARTNOLL, R.G. & S.M. SMITH, 1980. An experimental study of sex dis-
crimination and pair formation in Gammarus duebeni (Amphipoda)
____ Crustaceana 38, 253-264.
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oil spill on an eelgrass community at Roscoff (France) with
special reference to the mobile benthic fauna. ____ Helgol.
Meeresunters. 33, 182-191. ("The very diverse amphipod fauna
had disappeared and had been replaced by a population of
Gammarella fucicola and Gammarus locusta; the latter was
absent in the year before the oil disaster took place!")
- HAUKSSON, E., 1980. (Survey of the littoral fauna of the inner part
of Eyafjörður, N-Iceland). ____ Natturugripasafnið á Akureyri
10, 1-24 (In Icelandic)
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in the epirhithron of a brook in the Mittelgebirge (West
Germany). ____ Ber. naturhist. Ges. Hannover (122), 109-124
(In German, not seen).

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- HIBBITS, J., 1978. Marine Ecrinales (Trichomycetes) found in crustaceans of the San Juan archipelago, Washington. ____ Syesis 11, 213-261 (Not seen).
- HICKLIN, P.W. & P.C. SMITH, 1979. The diets of five species of migrant shorebirds in the Bay of Fundy. ____ Proc. Nov. Scotia Inst. Sci. 29, 483-488 (In 4 of the 5 species the diet consisted mainly of Corophium volutator)
- HIRAYAMA, A., 1980. Gammaridea Amphipoda of the intertidal reef flat of Ishigaki island, Ryukyu archipelago. Part 1. genus Hyale. ____ Publs Seto mar. biol. Lab. 25, 131-156 (Deals with H. didendactyla n.sp., H. corallinacola n.sp., H. ishigakiensis n.sp. and Hyale spp. 1 and 2).
- HIRAYAMA, A. & T. KIKUCHI, 1980. A new gammaridean Amphipoda, Colomastix azunai, sp. nov., living in the sponge, Tetilla serica. ____ Publs Amakusa mar. biol. Lab. 5, 133-141.
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- HOLSINGER, J.R., 1979. Freshwater amphipod crustaceans (order Amphipoda). ____ Pp 149-180 in D.W. Linzey (ed.) Proceedings Symposium on endangered and threatened plants and animals of Virginia 1978. Blacksburg, Va (Not seen).
- HOLSINGER, J.R., 1980. Stygobromus canadensis, a new subterranean amphipod crustacean (Crangonyctidae) from Canada, with remarks on Wisconsin refugia. ____ Can. J. Zool. 58, 290-297.

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- HOLSINGER, J.R. & A.W. SKALSKI, 1980. The taxonomy and systematic status of Crangonyx paxi Schellenberg (Crangonyctidae). ____ *Crustaceana*, Suppl. 6, 17-26 (C. paxi is a valid, somewhat aberrant species of Crangonyx.)
- HOLTHUIS, L.B., 1979. "H. Milne Edwards's "Histoire naturelle des Crustacés" (1834-1840) and its dates of publication. ____ *Zool. Meded. Leiden* 53, 285- 296.
- HOPPENHEIT, M., C.N. MURRAY & D.S. WOODHEARD, 1980. Uptake and effects of americium- 241 on a brackish-water amphipod. ____ *Helgol. Meeresunters.* 33, 138-152. (The amphipod is Gammarus d. duebeni).
- HOSSACK, K. & R.A. COSTELLO, 1979. Predation by Anisogammarus confervicolus (Amphipoda: Gammaridea) on Aedes togoi (Diptera, Culicidae). ____ *Entomol. Soc. Brit. Col.* 76, 20-21.
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- JARAMILLO, E., W. STOTZ, C. BERTRAN, J. NAVARRO, C. ROMAN & C. VARELA, 1980. (Locomotor activity of Orchestoidea tuberculata (Amphipoda Talitridae) on the surface of a sandy beach of southern Chile (Mehuín, Valdivia province)). ____ Stud. neotrop. Fauna Environm. 15, 9-33. (In Spanish)
- JAŹDŹEWSKI, K., 1980. Range extensions of some gammaridean species in European inland waters caused by human activity. ____ Crustaceana, Suppl. 6, 84-107.
- JENIO, F., 1979. Predation on freshwater gammarids (Crustacea: Amphipoda). ____ Proc. W.Va. Acad. Sci. 51, 67-73 (Not seen).
- JENIO, F., 1980. The life cycle and ecology of Gammarus troglophilus Hubricht & Mackin.-Crustaceana, Suppl. 6, 204-215.
- JUNÉRA, H. & Y. CROISILLE, 1980. Recherche du lieu de synthèse de la vitellogenine chez le Crustacé Amphipode Orchestia gammarellus (Pallas). Mise en évidence d'une activation de la synthèse protéique dans le tissu adipeux sous-épidermique en liaison avec la production de vitellogenine. ____ CR Acad. Sci. Paris 290 D, 703-706.
- JUST, J., 1980. Amphipoda (Crustacea) of the Thule area, Northwest Greenland: Faunistics and Taxonomy. ____ Meddr Grønland, Biosci. 2, 1-61 (A report on 105 spp. New taxa: Aceroides goesi n. sp., Bathymedon antennarius n. sp., Monoculodes vibei n. sp. and Parametopa crassicornis n. sp. all from Bylot Sund. Also fully described, but not formally named, are species complexes near Gitanopsis inermis (as G. spp. A and B), Ischyrocerus anguipes s. l. (as I "spp" T 1, T 2 and T 3) and Paroediceros lynceus (forms A,B and C). Descriptions and illustrations are further provided for Lembos borealis, Ischyrocerus latipes, I. megacheir, I. megalops, I. stephenseni (to which all published Greenland records of I. brusilovi in reality belong), Anonyx affinis Ohlin (non A.a. s. Gurjanova), Arrhinopsis longicornis, Monoculodes longirostris, M. intermedius, M. packardi, Oediceros sp. (undescribed), Arctopleustes glabricauda, Pleusymtes glabroides, Stenopleustes olriki,

- Metopa bruzelii, M. glacialis, M. longicornis, M. pusilla, M. tenuimana, M. spec. (probably undescribed), Metopella carinata, M. longimana, M. nasuta, Mesometopa neglecta, Stenula nordmanni (transferred from Metopa""; shoemaker's "Proboloides nordmanni" was a different species altogether") and Stenula sp.)
- KARAMAN, G.S., 1979. First discovery of genus Mesogammarus Tzv. in Japan, with remarks on some Japanese Eogammarus species. Contribution to the knowledge of the Amphipoda 98. ____ Poljoprivreda i Šumarstvo 25, 23-40 (On Mesogammarus melitoides, Eogammarus annandalei and E. jesoensis).
- KARAMAN, G.S., 1979. Revision of the genus Paracorophium Stebb. with description of P. chelatum n. sp. and genus Chaetocorophium, n. gen. (fam. Corophiidae) (Contribution to the knowledge of the Amphipoda 100). (Congratulations, Gordan!). ____ Glas. Republ. Zavoda Zašt. Prirode- Prirodnjačkog Muz. Titograd 12, 87-100 (P. chelatum n. sp. from the Palau Islands. Chaetocorophium n. gen.: type and only species Paracorophium lucasi Hurley from Lake Rotoiti, N. Zealand).
- KARAMAN, G.S., 1979. Contribution to the knowledge of the Amphipoda 106. Two new Bogidiella species (fam. Gammaridae) from Italy. ____ Glas. Republ. Zavoda Zašt. Prirode- Prirodnjačkog Muz. Titograd 12, 101-115 (B. italica n.sp. and B. paraichnusae n.sp.)
- KARAMAN, G.S., 1979. The problems of Salentinella angelieri Del.- Deb. and Ruffo 1952 and its subspecies (Contribution to the knowledge of the Amphipoda 109). ____ Poljoprivreda i Šumarstvo 25, 25-44 (Mainly based on Italian material, the angelieri-group is revised and the following taxa shown to be synonyms of S. angelieri: S. gracillima balcanica, S. a. pisana, S. denticulata and S. franciscoloi)
- KARAMAN, G.S. & G.L. PESCE, 1980. Researches in Africa by the zoological institute of l'Aquila, Italy. 5. On three new subterranean amphipods from North Africa (Amphipoda, Gammaridae). ____ Bull. zool. Mus. A'dam 7, 187-207. (Oddly enough, the paper describes only two new taxa, viz. Bogidiella ichnusae africana n.ssp. from Biskra, Algeria, and Metacrangonyx spinicaudata n.sp. from Casablanca, Morocco. The third species is Salentinella angelieri from Morocco.)
- KASIMOV, E., 1976. (Crustacea). ____ In Fauna of Azerbaidzhan 4-1. Baku 1976, 251 pp (In Russian, not seen. Amphipoda on pp 198-237, according to Jan Stock).

- KHAYRALLAH, N.H. & A.M. JONES, 1980. The ecology of Bathyporeia pilosa (Amphipoda: Haustoriidae) in the Tay estuary. 1. Factors influencing the distribution on Tayport and Tentsmuir beaches. ____ Proc. R. Soc. Edinb. 78 B, 109-119.
- KHAYRALLAH, N.H. & A.M. JONES, 1980. The ecology of Bathyporeia pilosa (Amphipoda: Haustoriidae) in the Tay estuary. 2. Factors affecting micro-distribution. ____ Proc. R. Soc. Edinb. 78 B, 121-130.
- KOZLOVA, I.V., 1979. (Ecology of abundant crustaceans in the brackish lake Duvankul) ____ Soviet J. Ecol. 10, 358-359 (In Russian, not seen).
- KRAPP-SCHICKEL, G. & A. MYERS, 1979. The Mediterranean species of Gammaropsis Liljeborg (Crustacea, Amphipoda). ____ Boll. Mus. Civ. St. Nat. Verona 6, 441-467. (Deals with G. dentata, G. pseudoostroumovi, G. ostroumovi, G. emancipata n. sp., G. maculata (incl. G. erythrophthalmus), G. crenulata n. sp., G. ulrici n.sp., G. togoensis, G. sophiae (incl. G. pusilla) and G. palmata. A key to the Mediterranean species is provided).
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- LAVAL, Ph., 1980. Hyperiid amphipods as crustacean parasitoids associated with gelatinous plankton. ____ Oceanogr. mar. Biol. ann. Rev. 18, 1-56 (A very important review, destined to become a classic).
- LEDOYER, M., 1979. Les Gammariens de la pente externe du Grand Recif de Tuléar (Madagascar) (Crustacea, Amphipoda). ____ Mem. Mus. Civ. St. Nat. Verona (2) 2, 1-150. (This important monograph was substantially finished in manuscript as early as 1974; few later papers have been considered, although the author states that the newer literature in no case has invalidated the new taxa in this paper. New taxa: Ampelisca pugetica microdonta n. ssp., Amphithoe plumicornis n.sp., Colomastix armata n.sp., C. cornuta n.sp., C. inaequicornis n. sp., C. plumosa n.sp., C. spinosa n.sp., C. truncatipes n.sp. (a synoptic key to Colomastix is also given), Cheiriphotis durbanensis K.H. Barnard (originally described as forma of C. megacheles), C. madagascarensis n.sp., Gammaropsis atlantica forme A, ? ssp 1 and ? spp 2, G. denticulata n.sp., G. dilatata n.sp., G. latipalma n.sp., G. pseudodenticulata n.sp., Konatopus latipalma n.sp. (Neomegamphopus kunduchii is also removed to Konatopus), Photis cavimana n.sp., Pseudomegamphopus chelatus n.sp., Xenocheira angusticarpa n.sp.,

Atylus brevitarsus n.sp., Dexaminella aegyptiaca ovata n.ssp.
 (D. rotundicoxa is also delegated to subspecies status under
D. aegyptiaca), Guernea tenuipes n.sp., Haustoriopsis latipes
 n.sp., Paradexamine micronesica n.sp. (= Dexaminoides orientalis
 s. Barnard 1965), P. mozambica n.sp., Sphaerophthalmus acutipes
 n.sp. (in the Dexaminidae), Ceradocus crenatipalma n.sp.,
C. mahafalensis n.sp., Cheirocratus unidentatus n.sp., Elasmopus
molakai pilosus n.ssp., Eriopisa (s.l.) melitaformis n.sp.
 (perhaps a Protohadzia), Maera aequimana n.sp., Mallacoota
subinsignis n. sp., Megaluroopsis excavatus n.sp., M. sinuatus
 (was in Tulearogammarus, a genus which the author now
 suppresses, as it was in part based on erroneous observations),
 ? Melita excavata n.sp., ? Erichthonius latimanus n.sp., Ischyro-
cerus oaku armatus n.ssp., Parajassa bidentata n.sp., P. spini-
palma n.sp., Ventojassa crenulata n.sp., Metaphoxoides angusti-
manus n.sp., Laetmatophilis intermedius n.sp., Stenothoe inermis
 n.sp. (= ? S. spec. B. Barnard 1970 from Hawaii), Metatiron
caecus n.sp., Hyale inermis n.sp., Tulearidae n. family (near
 Thaumatelsonidae) with Tulearus thomassini n.gen. n.sp. More
 or less complete illustrations are also furnished of the
 following species: Ampelisca natalensis, Gitanopsis pusilla,
Amphithoe cavimana, A.kaneohe, Paranamixis? indicus, Colomastix
lunalilo, Cheiriphotis durbanensis, Concholestes dentalii,
Ledoyerella isochelata, Microdeutopus tridens, Photis kapapa,
Photis longicaudata, Unciolella spinosa, Atylus granulosus,
Paradexamine cf. marlie, P. orientalis, Ceradocus serratus,
C. spiniferus, Elasmopus dubius, E. hooheno, Maera mastersi,
M. octodens, Maerella ? tenuimana, Melita appendiculata, Nuuanu
amikai, Platyischnopus herdmani, Cerapus tubularis, Parajassa
chilkoa, Ventojassa ventosa, Leucothoe ctenochir, L. hyhelia,
L. lihue, L. micronesiae, L. richiardii, L. spinicarpa,
Leucothoella bannwarthi, Leucothoides pottsi, Listriella cf.
dahli, Kerguelenia nov. spec. (in the text as Acontistoma sp.,
 erratum slip provided), Amaryllis macrophthalma, Aristias
symbioticus, Lysianassa variegata, Socarnes ? obesa, Stoma-
cintion prionoplax, ? Melphisana sp., Kanaloa manoa, Periocu-
lodes serra, Pereionotus cf. alaniphlias, P. testudo (Medit.
 material), Metaphoxoides picardi, Laetmatophilus hala, Podocerus
 cf. mangarevae, P. cf. palinuri, P. walkeri, Seba ekepuu,
Wallametopa cabon (Parametopa grandimana may be a synonym),
Metatiron brevidactylus, Synopia scheeleana, S. variabilis and
Hyale nigra).

- LEE, K.S. & H.S. KIM, 1980. On the geographical distribution and variation of freshwater Gammarus in Korea, including descriptions of four new species. ____ Crustaceana, Suppl. 6, 44-67 (Five species, of which G. sobaegensis was originally described as a subspecies of G. pulex and the other four are new species: G. odaensis n.sp., G. soyoensis n.sp., G. zeongogensis n.sp. and G. galgosensis n.sp.)
- LEE, W.Y., A. MORRIS & D. BOATWRIGHT, 1980. Mexican oil spill: a toxicity study of oil accommodated in seawater on marine invertebrates. ____ Mar. Poll. Bull. 11, 231-234 (Oil in seawater was not particularly toxic to Parhyale hawaiiensis, during 1 week's exposure at 0-50% OAS).
- LEVINGS, C.D., 1980. The biology and energetics of Eogammarus confervicolus (Stimpson) (Amphipoda, Anisogammaridae) at the Squamish River estuary, B.C. ____ Can. J. Zool. 58, 1652-1663.
- LINCOLN, R.J. & D.E. HURLEY, 1980. Scutocyamus antipodensis n. sp. (Amphipoda: Cyamidae) on Hector's dolphin (Cephalorhynchus hectori) from New Zealand. ____ N.Z. J. mar. Freshw. Res. 14, 295-301.
- LINDSTRÖM, M. & A. LINDSTRÖM, 1980. Swimming activity of Pontoporeia affinis (Crustacea, Amphipoda). Seasonal variations and usefulness for environmental studies. ____ Ann. zool. fenn. 17, 213-220.
- LINDSTRÖM, M. & A. LINDSTRÖM, 1980. Changes in the swimming activity of Pontoporeia affinis (Crustacea, Amphipoda) after exposure to sublethal concentrations of phenol, 4-chlorophenol and styrene. ____ Ann. zool. fenn. 17, 221-231.
- LIPA, J. & S. RAKUSA-SUSZCZEWSKI, 1980. An amphipod Paramoera walkerii Stebbing (Crustacea, Amphipoda) as a new host of eugregarine Rotundula gammari (Diesing). ____ Pol. Arch. Hydrobiol. 27, 313-315.
- LOGACHEV, V.S. & Yu. E. MORDVINOV, 1979. (The swimming speed and the activity of larval round goby and of some predatory crustaceans from the Black Sea). ____ Biol. Morya (Vladivostok) 131, 77-80 (In Russian, not seen. Deals i.a. with "Gammarus")
- LOGAN, A., 1979. The recent Brachiopoda of the Mediterranean Sea. ____ Bull. Inst. océanogr. 72, 1-112 (Aristias neglectus in Terebratulina reversa, see p. 40).
- LOOYENGA, P.J. & J.C. DIELEMAN, 1980. Effect of tidal simulations and entrainment of an endogenous tidal rhythm in a non-tidal population of Gammarus zaddachi. ____ Bijdr. Dierk. 50, 35-51.

- LOWRY, J.K., 1981. The amphipod genus Cerapus in New Zealand and subantarctic waters (Corophioidea, Ischyroceridae) ____ J. nat. Hist. 15, 183-211 (Realizing that speciation in N.Z. Cerapus showed many analogies to that among Tolkien's hobbits, Jim called his new taxa Cerapus harfootus n.sp., C. stoorus n.sp. and C. fallohideus n.sp. (all from Kaikoura). The other N.Z. species are C. oppositus and C. sismithi).
- MACDONALD, A.G. & I. GILCHRIST, 1980. Effects of hydraulic decompression and compression on deep sea amphipods. ____ Comp. Biochem. Physiol. 67 A, 149-154.
- McKINNEY, L.D., 1980. Four new and unusual amphipods from the Gulf of Mexico and Caribbean Sea. ____ Proc. biol. Soc. Wash. 93, 83-103 (Atylus urocarinatus n.sp. (Texas), Eusiroides yucatanensis n.sp. (Yucatan), Megaluropus myersi n.sp. (Yucatan) and Seba tropica n.sp. (Texas).
- McKINNEY, L.D., 1980. The genus Photis (Crustacea: Amphipoda) from the Texas coast with the description of a new species. ____ Contr. mar. Sci. 23, 57-62 (With Photis melanicus n.sp.)
- MACPHERSON, B.R. & V.J. STEELE, 1980. Microanatomy of the central nervous system of Gammarus setosus Dementieva: the suboesophageal ganglion and ventral ganglion chain. ____ Crustaceana, Suppl. 6, 108-111.
- MACPHERSON, B.R. & V.J. STEELE, 1980. Microanatomy of the central nervous system of Gammarus setosus Dementieva (Amphipoda). The supraoesophageal ganglion. ____ Crustaceana 38, 113-120, Pls 1-2.
- MACQUART-MOULIN, C. Effects de la temperature sur les rythmes d'emergence des Peracaridés fouisseurs. Urothoe elegans (Amphipoda) et Eurydice inermis (Isopoda). ____ Mar. Behav. Physiol. 7, 65-83.
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Announcement

J.L. Barnard's handbook, 'The Families and Genera of Marine Gammaridean Amphipoda,' originally issued as U.S. National Museum Bulletin 271 in 1969 and out of print for some years, will be reprinted by the Smithsonian Institution, under the auspices of the Waldo L. Schmitt Memorial Fund. Orders for this volume should include payment of \$ 15 in U.S. currency (checks or money orders only, please), and should be sent to:

Barnard Reprint
NHB Stop 163
Smithsonian Institution
Washington, DC 20560 U.S.A.

Translation of Japanese abstract

Hiroshi Morino kindly has sent the following translation of the abstract of a Japanese paper.

HARADA, M. & K.S. IWATA, 1980. (Photokinetic response of the eyeless cavernicolous amphipod, Pseudocrangonyx shikokunis) ____ Bull. Akiyoshi-dai Mus. nat. Hist. 15, 63-68 ('The Photokinetic response of the cavernicolous amphipod, Pseudocrangonyx shikokunis Akatsuka et Komai, has been examined experimentally and it is proved that in spite of the lack of eyes the animals respond to light. After adaption to dim light, the locomotory speed was accelerated significantly by bright visible light, but not by infrared rays. The photoreceptive region of this species could not be determined.)